REMARKS

These remarks follow the order of the paragraphs of the office action. Relevant portions of the office action are shown indented and italicized.

Claim Rejections -35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> *The specification shall contain a written description of the invention and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention*

> *1. Claims 1-8, 10-12, 14-21, 23-25, and 27-31 are rejected under 35 USC. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended limitation "examining possible routes closet to the destination node to claims 1, 14, and 27-29 appear to lack adequate support from the specification.*

In response, applicants respectfully state that the limitation "examining possible routes closest to the destination node," in claims 1, 14, and 27-29 have adequate support in the specification. Support is found in the specification:

Page 7, lines 18 to 20, which reads, (emphasis added)

> 3. Store the list of blocked links in BL;
>
> Sort BL by decreasing distance from source node (links **closest to the destination** at the top);

Page 9, lines 8 to 10, which reads, (emphasis added)

> The control logic then sorts the links in BL in order of decreasing distance from the source node such that the link which is **closest to the destination node** is at the top of the list.

Page 10, lines 13 to 16, which reads, (emphasis added)

This part involves selecting the non-sole access links of the aforementioned set one at a time, starting with the link **closest to the destination node**, and checking for an alternative route which does not utilize the selected link.

Original claims 5, 6, 8, 12, and 18 support this as well. Thus, the amended limitation "examining possible routes closet to the destination node," in claims 1, 14, and 27-29 have adequate support in the specification. This overcomes the 35 USC. 112 rejection of claims 1-8, 10-12, 14-21, 23-25.

Claim Rejections -35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8, 10-12, 14-21, 23-25, and 27-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim is indefinite. The amended limitation seems to be disjoint and unrelated makes the scope of claim being impossible to ascertain. Claim 1 recites "the route" of the limitation "selecting at least one nonaccess element of the route used by the failed connection in said network structure" In lines 9-10. It is unclear as to what is the relation between the "at least one non sole-access element of the route" and the possible routes closet to the destination node in line 8, in order to provide alternative routing of a connection in an iterative method between a source node a destination node in a PNNI hierarchical network? The same remark applies to claims 14, and 27-29.

In response, applicants respectfully state that claim 1 is amended herewith to make it more definite, and reads as follows:

1. A method for alternative routing of a connection between a source node and a destination node in a PNNI hierarchical network, the method comprising responding to a failed connection between said nodes due to a sole-access element of a network structure as seen by the source node, where a said sole-access element is an element which provides sole access to the destination node in said network structure, by:

examining possible routes closest to the destination node;

selecting at least one non-sole-access element of a particular route used by the failed connection in said network structure;

identifying an alternative route for the failed connection in said network structure which does not utilize said at least one non-sole-access element; and

using the alternative route for establishment of the failed connection between said source and destination nodes.

Claims 14, and 27-29 were similarly amended to make each claim more definite. This overcomes the 35 USC. 112 rejection of claims 1-8, 10-12, 14-21, 23-25, and 27-31.

Claim Rejections -35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed In the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application designated in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English Language.

4. Claims 1-8, 10-12, 14-21, 23-25, and 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Srinivasan et al. (US. 6,304,549), hereinafter referred to as Srinivasan,

In response, applicants respectfully state that Claims 1-8, 10-12, 14-21, 23-25, and 27-29 are not anticipated by Srinivasan. The present invention provides methods and apparatus, "for alternative routing of a connection between a source node and a destination node in a PNNI hierarchical network. The alternative routing method comprises responding to a failed connection between said nodes due to a sole-access element of the network structure as seen by the source node, where a said sole-access element is an element which provides sole access to the destination node in said network structure, by: selecting at least one non-sole-access element of the route used by the failed connection in said network structure; identifying an alternative route for the connection in said network structure which does not utilize the at least one selected element; and using the alternative route for establishment of the connection between said nodes."

The cited reference to Srinivasan, US Patent 6,304,549, filed: May 8, 1997, is entitled, "Virtual path management in hierarchical ATM networks." The abstract reads, "[T]his is a method for dynamic and distributed management of Virtual Path Connections (VPCs) in a hierarchical ATM network. VPC parameters, including VPC type (heterogeneous or homogeneous), source node characteristics, end-to-end VPC constraints (GoS and QoS), and the number of on-demand connections to be supported, are determined or specified. Network resources, such as bandwidth and buffer size availability, are also determined. The parameters and information relating to the network resources are sent to a connection server that computes an optimal physical route for the VPC, allocates resources along the computed route, and notifies switches along the route of the new allocation of resources. The switches then change their respective configurations to accommodate the new allocation." Whereas Srinivasan is in regard to VPC management, the invention in Claims 1-8, 10-12, 14-21, 23-25, and 27-29 is not directed to VPC.

> *Regarding claims 1, 14 and 27-31, Srinivasan discloses responding to a failed connection between a source and destination node due to a sole-access element of a network structures as seen by the source node (col. 16, lines 56-61 and col. 17, lines 22-25), examining possible routes closest to the destination node (col. 10, lines 16-31), selecting at least one none-access element of the route used by a failed connection in a network structure (col. 10, lines 5-25), identifying an alternative route for the connection in the network structure which does not utilize the at least one selected element and using the alternative route for establishment of the connection between the nodes (col. 10, lines 25-31). Srinivasan also discloses a topology database for storing information regarding possible routes expressed as Designated Transit Lists (DTLs) (col. 10, lines 16-19). Srinivasan also discloses that when a switch is the cause of failure, it is equivalent to the failure all of the links around the failed switch, thus these links are not parts of the possible routes mentioned above for establishing an alternative route, but rather represent non-sole-access links that are not chosen as alternate paths (col. 17, lines 30-35).*

In response, applicants respectfully state that claims 1, 14 and 27-31, as all claims 1-31, are not anticipated by Srinivasan. Applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 1-31 and the cited art. This is in regard to use of words in claims 1-31 of sole-access element', possible routes closest to the destination node, alternative route for the failed connection in a network structure which does not utilize said at least one non-sole-access element, etc. Thus, the present invention is not anticipated by Srinivasan.

As starts in col. 1, line 28, of Srinivasan, Srinivasan is in regard to, "[R]esource management controls can be implemented at a number of levels in an ATM network. Controls can be applied to Virtual Channel Connections (VCCs), which are connections of virtual channel links (segments of unidirectional transport of ATM cells between a point where a virtual channel identifier (VCI) is assigned to the point where this value is translated or removed), and Virtual Path Connections (VPCs) which are a concatenation of virtual path links, which are terminated by points where the virtual path identifier (VPI) is assigned and translated or removed. FIG. 1 shows an illustration of VCCs and VPCs. Typically, VCCs are set up on demand, while VPCs are preestablished (provisioned), i.e., with bandwidth and buffer resources allocated a priori. Thus, to set up an on-demand connection, e.g., a VCC from end host A to end host B in FIG. 1, Connection Admission Control (CAC) functions and switch fabric configurations are only performed at the terminating points of each VP segment, e.g., at switches SW1 and SW2. As is known, provisioning VPCs offers a number of advantages such as: reducing end-to-end VCC setup delay; use in self-healing networks due to faster rerouting and restoring speeds; a reduction in network "switching" costs since VP cross-connects can be used in parts of the network; and, use in certain applications such as IP-over-ATM networks, where provisioned VPC's improve performance by avoiding a connection setup to transfer connectionless IP packets across an ATM network, and wireless ATM networks where provisioned VPCs between adjacent base stations allows simplified mobile handoffs." This is a very different problem that the invention in claims 1, 14 and 27-31. A review of the cited portions of (col. 16, lines 56-61 and col. 17, lines 22-25) does not reveal the steps of claim 1 shown above. Srinivasan, col. 16, lines 56-61, read, "As shown at step 350, in FIG. 10 (b) a determination is made as to whether there was a link failure in a VPC route. As indicated at step 350, link failures, which may be both intermittent and permanent, may be detected by Operation and Maintenance (OAM) functions executed at different levels of the network hierarchy, namely, the physical layer" ..... . This is not nor does it anticipate the steps of "responding to a failed connection between said nodes due to a sole-access element of a network structure as seen by the source node, where a said sole-access element is an element which provides sole access to the destination node in said network structure, by: examining possible routes closest to the destination node; selecting at least one

non-sole-access element of a particular route used by the failed connection in said network structure; identifying an alternative route for the failed connection in said network structure which does not utilize said at least one non-sole-access element; and using the alternative route for establishment of the failed connection between said source and destination nodes," of claim 1. Certainly some of the words in the cited reference regarding a failure in VPC coincide with words in the claim, but the VPC references are not doing the steps of the claim. The same is true for all the other claims 1-31. Similarly, Srinivasan col. 17, lines 22-25, read, "[A]dditionally, as indicated at step 367, when a connection server CS determines that a link l has failed, it reroutes any VPCs that it is monitoring, which use this link, by returning to step 210, FIG. 7." This does not allude to the steps in claim or in claims 1-31.

Regarding claims 2, and 15, Srinivasan discloses determining whether an alternative route has enough bandwidth to support the connection (col. 10, lines 25-31), which meets the limitation of checking whether the alternative route satisfies a set of predetermined connection constraints.

In response, applicants respectfully state that exception is taken with most if not all the of the so called equivalencies of elements in claims 2-31. A review of the cited portions of the reference indicates that the equivalencies are apparently not apporopriate, even when similar words are used. The vaction of the similar words are apparently not the elements of claims 2-31. In particular, claims 2 and 15 and the cited art. Thus claims 2 and 15 are allowable in themselves and because each depends on an allowable claim.

Regarding claims 3, and 16, Srinivasan discloses that the element is a link of the network structure (col. 10, lines 25-31).

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 3 and 16 and the cited art. Thus claims 2 and 15 are allowable in themselves and because each depends on an allowable claim.

Regarding claims 4, and 17, Srinivasan discloses selecting all non-sole- access links of the route used by the failed connection that are outside the PNNI peer group of the source node (cot. 14-line 62 to col. 15-line 17).

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 4 and 17 and the cited art. Thus claims 4 and 17 are allowable in themselves and because each depends on an allowable claim.

Regarding claims 5,6,8, 16, 19, and 21, Srinivasan discloses that for multi-peer group connections the selection of alternative routes and attempting to setup an alternative route occur in each peer group along the whole route of the Virtual Path Connection (VPC) (col. 14-line 62 to cal. 15-line 17). This meets the limitation of selecting from the set of all non-sole-access links outside of the peer group of the source node the link that is closet to a predetermined one of the source and destination nodes. In this case, the alternative route selection begins in the peer group of the source node, the moves onto the next peer group, the one closet to the peer group of the source node, The first link examined in this next peer group represent the closet links of the non-sole-access links outside of the source node peer group. This alternative route selection procedure propagates along the entire path to the destination node.

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 5, 6,8, 16, 19, and 21 and the cited art. Thus claims 5, 6,8, 16, 19, and 21 are allowable in themselves and because each depends on an allowable claim

Regarding claims 7, and 20, as mentioned above, Srinivasan discloses that route selection procedure includes determining if a possible route has enough bandwidth to support the connection (col. 10, lines 25-31).

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 7 and 21 and the cited art. Thus claims 7 and 21 are allowable in themselves and because each depends on an allowable claim.

Regarding claims 10, 12, 23, and 25, Srinivasan discloses continuing to try different alternate routes in the set of possible routes if an attempted connection in a particular peer group fails (col. 11-line 62 to cot. 12-line 3). Srinivasan discloses an example wherein a link between A.2.1 and A.3.2 connecting the A.2 and A.3 peer groups is not used due to lack of bandwidth, thus the link between A.2.4 and B.3 connecting the A.2 and B peer group is used (col. 10 line 45 to col. 12 - line 3). This link clearly does not utilize the closest link, Whenever a connection attempt fails, another possible route is chosen (col. 11, lines 29-35).

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in claims 10, 12, 23, and 25 and the cited art. Thus claims 10, 12, 23, and 25 are allowable in themselves and because each depends on an allowable claim

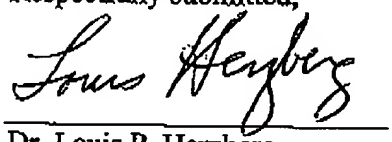
> *Regarding claims 11, and 24, as mentioned above, Srinivasan discloses that the route selection procedure includes determining if a possible route has enough bandwidth to support the connection (col. 10, lines 25-31).*

In response, as stated and shown above applicants respectfully state that exception is taken with the so called equivalencies of elements in Claims 11 and 24 and the cited art. Thus claims 11 and 24 are allowable in themselves and because each depends on an allowable claim.

It is anticipated that this amendment brings the application to allowance of claims 1-31. Favorable action is respectfully solicited. After this application is revived, in the unlikely event that any claim remains rejected, please contact the undersigned by phone in order to discuss the application.

Please charge any fee, other than the fee to revive paid by a credit card, necessary to enter this paper to deposit account 50-0510.

Respectfully submitted,

By: 

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